

REMARKS/ARGUMENTS

Applicants respond herein to the final Office Action dated January 5, 2010.

Claims 1, 8-11, and 18-21 are pending in this application. Claims 12-15 have been withdrawn from further consideration by the Examiner and claims 2-7 and 16-17 have been cancelled.

Claim 1 has been amended, whereby it no longer includes the magnesium carbonates and the calcium magnesium carbonate dolomites of the cited Kamei et al. reference. Claim 21 has been similarly amended to specifically avoid including magnesium carbonates and specifically dolomites as well.

Claims 1, 8-11 and 16-20 were rejected under 35 U.S.C. §103 as being unpatentable over U.S. Patent No. 6,136,062 to Löffelholz et al. in view of U.S. Patent No. 5,417,917 to Takahar, et al. and further in view of U.S. Patent No. 6,015,527 to Kamei et al. for the reasons as previously cited.

The Examiner did not accept the previous amendment, stating that excluding carbonates of sodium did not exclude the dolomites of Kamei et al. "which is composed of calcium magnesium carbonate, therefore meets the claim limitation of magnesium carbonates". The Examiner made a similar statement with respect to claim 21. With the above amendments to both claims 1 and 21, to specifically avoid including dolomites and magnesium carbonates, the Examiner's basis for maintaining the rejections has been obviated.

Furthermore, all the claims, and specifically claims 1 and 21, require that, "...the mixing ratio of the compound is that cations in the compound are blended at 0.5 to 1 mole with respect to 1 mole of the metal contained in the metal compound feed compact...", which ratio does not appear in any of the cited references. In rejecting this limitation as a distinguishing feature, the Examiner, citing MPEP 2144.05 II, noted that the claimed ratio is merely an optimizing of the mixing ratio of the compounds for Kamei et al and that the reason for the optimization need not be the same as that of the instant invention.

With respect to the relative amounts of binder as disclosed by Kamei et al., it is submitted that the amount of bentonite used therein is 1.5 to 5 % by weight relative to iron which is 58.6 to 77% by weight (see Tables 5, 12, 20 and 24). The amount of iron in iron ore (Fe_2O_3) is 70% by weight ($\text{Fe}_2/\text{Fe}_2\text{O}_3 = 112/160 = 0.7$) with Fe_2O_3 being more than 96.2% weight (Table 22). Thus, the amount of iron in Kamei et al. is 41.02 to 53.9% by weight and the amount of bentonite is 1.5 to 5 weight percent. The molar ratio of Na and Fe in Kamei et al is at most "(5/23) : (41.02/56) =

0.296:1", or less than 0.30, even with the bentonite of Kamei et al, being composed of 100% of Na form, since the atomic weight of Na is 23 and the atomic weight of Fe is 56. In fact, the actual molar ratio is much less than the above calculated 0.30 with the bentonite of Kamei et al. since it is impossible for the bentonite to be of pure sodium form, which has the lowest atomic weight of all the metals enumerated in present claim 1.

Accordingly, the amended claim which requires the mixing ratio of the compound so that cations in the compound are blended at 0.5 to 1 mole relative to 1 mole of the metal contained in the metal compound feed compact, is well outside the range disclosed by Kamei et al. Furthermore, the range of Kamei et al. is optimized for the **specific purpose of facilitating uniform and rapid mixing** with the formation of compacts in **sheet-like shapes**. The ratio, as calculated above, of Kamei et al. for the process facilitation is accordingly in different ratios than for the presently claimed optimization for **obtaining a metal powder** which, as described in the specification, is uniform. Kamei et al.'s ratio for the process facilitation (unrelated to uniform metal powder formation) would not be modified, as the Examiner has suggested, to encompass the presently claimed range and ratio of a uniform mixture. This is in accord with MPEP 2144.05 II B., wherein only result effective variables can be optimized. Thus, Kamei et al. has a specific purpose result with the formation of compacts in sheet-like shapes which differs from the metal powder of the present claims. Optimization, as advocated by the Examiner, is not appropriate here based on the cited art when different purposes and results are sought and should not form a basis for the rejections of claims 1 and 21.

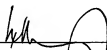
In addition, unexpected results based on the claimed ratios were obtained, as shown in FIG. 5, when comparing Examples I and O, whose mixing molar ratios are 0.5 and 1, respectively, with Example H, whose mixing molar ratio is 0.2 (as described in Example 2). Specifically, metal powders (not sheets as in Kamei et al.) whose particle size distribution has a single peak with unexpectedly high uniformity can be obtained as in Example I (mixing molar ratio of 0.5) and in Example O (mixing molar ratio of 1). This is unexpected contrast to the inferior uniformity of metal powders with a particle size distribution having double peaks at almost the same height (Example H) but with a mixing molar ratio of 0.2. None of the cited references teach or even suggest this unexpected effect by setting molar ratio to 0.5 to 1, as claimed, and which is well outside the range of Kamei et al. and is not with respect to a result effective variable as required by MPEP 2144.05 II B.

Accordingly, the Examiner is respectfully requested to reconsider the application, allow the claims as amended and pass this case to issue.

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